

Time-Of-Flight Advanced Performance Detectors



PHOTONIS offers the fastest Time-of-Flight Detectors and the widest variety for mass spectrometer applications.

From the new Ultra-Fast BiPolar TOF to the Advanced Performance Detectors (APD), you have the temporal resolution, dynamic range, and high mass sensitivity you need.



PHOTONIS offers the widest selection of standard and custom TOF and BiPolar TOF Detectors

Detector	Active Ø	Pore size	Rise Time (ps)	Pulse Width (ps)	Overall Height	Outside Dim	Operating Temp	Bake Temp	Quick-Fit® Cartridge	Flange Option
Ultra-Fast TOF	18mm	2µm	250	350	1.4"	1.6"	100°C	100°C	Available	4.5" or 6"
AP TOF	18mm	5µm	350	750	1.5"	1.6"	100°C	100°C	Available	4.5" or 6"
HT AP TOF	18mm	5µm	350	750	1.5"	1.6"	100°C	300°C	Available	4.5" or 6"
AP TOF	25mm	5µm	300	650	1.7"	2.2"	100°C	100°C	Available	6"
Ultra-Fast TOF	25mm	2µm	250	350	1.7"	2.2"	100°C	100°C	Available	6"
AP TOF	40mm	5µm	300	650	2.7"	2.9"	100°C	100°C	Available	6"
BiPolar TOF	18mm	5µm	800	2200	1.7"	1.8"	50°C	50°C	Available	4.5" or 6"
Off-Axis BiPolar TOF	18mm	5µm	380	1700	1.4"	1.96"	50°C	50°C	Available	4.5" or 6"
Co-Axial Bipolar TOF	18mm	5µm	380	1700	1.4"	2.1"	50°C	50°C	Available	4.5" or 6"
Ultra-Fast BiPolar	25mm	5µm	300	700	3.6"	2.2"	50°C	50°C	Not available	6"
BiPolar TOF	25mm	5µm	380	1700	2.3"	2.6"	50°C	50°C	Available	6"
Ultra-Fast BiPolar	40mm	5µm	300	700	4.4"	2.7"	50°C	50°C	Not available	6"
BiPolar TOF	40mm	5µm	380	1700	2.7"	2.9"	50°C	50°C	Available	6"
Mini-TOF	8mm	5µm	350	750	0.54"	0.75"	100°C	100°C	Not available	1.33"
MAGNUM™	13mm	NA	800	1700	1.4"	0.77"	100°C	250°C	Not available	4.5" or 6"

18 mm Ultra-Fast TOF Detector

Featuring the fastest detector speed in the world, this PHOTONIS TOF detector offers previously unavailable levels of mass resolution and dynamic range. Using the smallest pore MCPs in the world, this detector has pulse widths nearly 10 to 15 times faster than conventional detectors.



18 mm AP TOF Detector

The world's most popular TOF detector. The patented design features sub-nanosecond pulse widths and a 50 ohm impedance matched anode for fast, clean output pulses. Also available as a High-Temp version.



25 mm AP TOF Detector

Offering twice the collection area of a standard 18 mm TOF, this detector incorporates all the patented technology that PHOTONIS is famous for. Featuring sub-nanosecond pulse widths and a 50 ohm impedance matched anode for fast, clean output pulses.



25 mm Ultra-Fast TOF Detector

Using 2µm pore Mounting Pad MCP's, this detector is 10 to 15 times faster than a conventional ion detector and 3 to 5 time faster than a standard Time-of-Flight detector.



40 mm AP TOF Detector

Offering five times the collection area of a standard 18 mm TOF, this detector incorporates all the patented technology that PHOTONIS is famous for. Featuring sub-nanosecond pulse widths and a 50 ohm impedance matched anode for fast, clean output pulses.





18 mm BiPolar TOF Detector

This patented features an ion conversion surface that may be biased up to ± 10 kV to enhance the detection efficiency of high mass, positive or negative ions. A proprietary enhancement coating is added to further improve conversion efficiency. The output signal polarity is maintained at ground potential by electro-optically isolating the signal.



18 mm Co-Axial BiPolar TOF Detector

This unique detector was developed to give instrument manufactures an option to reduce the size of vacuum systems by generating the ions behind the detector and launching them into a simplified reflectron lens.



25 & 40 mm Ultra-Fast BiPolar TOF

These detectors use a high speed scintillator and faster PMT design to double the resolution at low mass. They include a sub-nanosecond optically coupled ion detector, an integral PMT power supply and high speed amplifier for easy integration. Durable ultra-flat Mounting-Pad™ MCP's reduce time jitter.



25 mm BiPolar TOF Detector

This detector features an increased collection area. It is contained in a low-profile assembly integrating a high sensitivity microchannel plate and electro-optically isolated signal readout. Available for mounting directly to the flight tube or mounted on a 4,5" or 6" Conflat flange.



40 mm BiPolar TOF Detector

This detector features the largest collection area available in BiPolar technology. Fast rise times, narrow pulse widths, and a huge collection area make this the ideal high mass detector. Available for mounting directly to the flight tube or mounted on a 4,5" or 6" Conflat flange.



8 mm Mini-TOF Detector

The Miniature Time-of-Flight detector with only 8 mm collection diameter offers previously unobtainable levels of mass resolution, dynamic range, and detection sensitivity. It is specifically designed for field portable TOF Mass Spectrometry and has been incorporated into the smallest package available.



MAGNUM TOF Detector

Using the exclusive PHOTONIS Spiraltron™ technology, the MAGNUM TOF detector offers excellent dynamic range, fast timing, and rugged packaging in addition to excellent value.



PHOTONIS

INDUSTRY & SCIENCE

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